

Remarks1) Summary of The Office Action

Claims 1 – 61 were filed in the case. In the Office Action mailed November 21, 2001 the Examiner has rejected claims 1 – 8, 13-22 and 25-61 and allowed claims 9-12. The Examiner has rejected claims 1-8, 14-18, 21-22, 25-28, 30-34, 35-40, 45-46, 52-55 and 56-60 as obvious given US Patent 4,951,575 of Dominguez *et al.*, in view of US Patent 4,331,083 of Landregan *et al.* Claims 41-44 and 47-51 were rejected as being obvious given Dominguez and Landregan in view of US Patent 4,901,649 of Fehrenbach *et al.* In addition, the Examiner has rejected claims 13, 19, 29 and 61 as obvious given Dominguez and Landregan in view of US Patent 4,889,055 of Jamrozy *et al.*

The Examiner has made a number of formal rejections under 35 USC 112 concerning claims 20 and 28. Finally, the Examiner indicated that claims 23 and 24 would be allowable if rewritten in independent form.

2) Claim Rejections Under 35 USC 112 - Claims 20 and 28

In the context of claims 20 and 28, the Office Action states:

"In claim 20, lines 1 – 2, the phrase "said upper flange of said first end portion of said center sill is mounted more than 42 inches above top of rail" is confusing as it is unclear which particular rail structure defining the top of rail, applicant is referring to. Similar confusion exists in claim 28."

The applicant submits that claims 20 and 28 are phrased correctly as filed.

The term "top of rail", sometimes simply abbreviated as TOR, refers to the top of the rail road track. "Top of rail" is the universal datum for railcar vertical dimensions in North America, as indicated, for example, in AAR Plate 'C' as shown at p. 76 (and also in AAR plates B, E and F) of the *1980 Car and Locomotive Cyclopedia*, (Simmons-Boardman, Omaha, 1980) and in the center of gravity vertical height limit on p. 73, also as cited above. "Top of rail" is a term fully understood by persons skilled in the art of North American rail road car design and operation. This is demonstrated, for example, by use in the *Cyclopedia*. The applicant submits that as such persons skilled in the art would have no difficulty in understanding the language or meaning of claims 27, 29 and 30. See also *The Car and Locomotive Cyclopedia 1997* (Simmons-Boardman, Omaha, 1997) at pages 47 – 50, 52 – 54, 69, 81, 82, 87, 96, 105, 109, 110, 176 – 183, 195, 209, 213, 218, 274, 712 – 714, 726, 728, and 730.



3) Claim Rejections Under 35 U.S.C. 103 – Obviousness - Law

(a) MPEP Section 2142: Basic Requirements of a *Prima Facie* Case of Obviousness

Section 2142 of the Manual of Patent Examining Procedure (MPEP) states:

ESTABLISHING A *PRIMA FACIE* CASE OF OBVIOUSNESS

“To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on the applicant's disclosure. *In re Vaeck*, 947 F. 2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

(b) Mere Possibility of Combination is Not Sufficient

Section 2143.01 of the Manual of Patent Examining Procedure (MPEP) states:

FACT THAT REFERENCES CAN BE COMBINED OR MODIFIED IS NOT SUFFICIENT TO ESTABLISH *PRIMA FACIE* OBVIOUSNESS

“The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990)

(c) Must Have Teaching, Suggestion, or Incentive to Combine

Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention *absent some teaching, suggestion or incentive* supporting the combination *ACS Hospital Systems Inc. v. Montefiore Hospital*, 732 F. 2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir.). See also *In re Lee*, (Case No. 00 – 1158 CAFC, January 18, 2002).

Cited in *In re Geiger*, 815 F.2d at 688, 2 USPQ 2d at 1268 (Fed. Cir. 1987) (Emphasis added).

Obviousness cannot be established by combining references without also providing objective evidence of the motivating force that would impel one skilled in the art to do what the patent applicant has done (See *In Re Lee*, *supra*; see also *Ex Parte Levengood*, 28 USPQ2d 1300, 1302 (Bd. Pat. App. & Inter. 1993)).

(d) Inquiry Must Present a Convincing Line of Reasoning

The initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. "To support the conclusion that the claimed invention is directed toward obvious subject matter, either the references must expressly or impliedly, suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." *Ex Parte Clapp*, 227 USPQ972, 973 (Bd. Pat. App. & Inter. 1985) (Emphasis added).

When the motivation to combine the teachings of the references is not immediately apparent, it is the duty of the examiner to explain why the combination of the teachings is proper. *Ex Parte Skinner*, 2 USPQ2d 1788 (Bd. Pat. App. & Inter. 1986)."

(e) Inquiry Must Be Thorough And Searching

"The factual enquiry whether to combine the references must be thorough and searching. Id., It must be based on objective evidence of record. This precedent has been reinforced in myriad decisions, and cannot be dispensed with. ...

"The need for specificity pervades this authority. See e.g.,

In re Kotzab 217 F. 3d 1365, 1371, 55 USPQ 2d 1313, 1317 (Fed. Cir. 2000) ("particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed.");

In re Rouffet, 149 F.3d 1350, 1359, 47 USPQ 2d 1453, 1459 (Fed. Cir. 1998) ("even when the level of skill in the art is high, the Board must identify specifically the principle, known to one of ordinary skill, that suggests the claimed combination. In other words, the Board must explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious.");

In re Fritch, 972 F. 2d 1260, 1265, 23 USPQ 2d 1780, 1783 (Fed. Cir. 1992) (The examiner can satisfy the burden of showing obviousness of the combination "only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references")."

(See *In re Lee*, cited above. Emphasis and paragraph division added.)

Conclusory statements by an examiner do not adequately address the issue of motivation to combine. – *In re Lee*, *supra*.

(f) "Would have been obvious to one skilled in the art"

The MPEP requires that the examiner provide an objective source of support for a contention that a feature is known or obvious to one skilled in the art. An unsupported statement that a feature or combination "would have been obvious to one skilled in the art" is improper if made without support. *In re Lee, supra*, and *In re Garrett* 33 BNA PTCJ 43.

A statement that modifications of the prior art to meet the claimed invention would have been "well within the ordinary skill of the art at the time the claimed invention was made because references relied upon teach that all aspects of the claimed invention were individually known in the art" is not sufficient to establish a prima facie case of obviousness without some objective reason to combine the teachings of the references. *Ex parte Levengood*, 28 USPQ 2d 1300 (Bd. Pat. App. & Inter. 1993). See also *Al-site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ 2d 1161 (Fed. Cir. 1999) (The level of skill in the art cannot be relied upon to provide suggestion to combine references).

(g) Destruction of Function

"If proposed modifications would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)

4) Application Of Law To Rejections Under 35 USC 103

The Examiner has rejected claims 1 – 8, 13 – 22 and 25 – 61 as being obvious under 35 USC 103 in light of U.S. Patent 4,951,575 of Dominguez *et al.*, in light of US Patent 4,331,083 of Landregan *et al.*, in light of US Patent 4,901,649 of Fehrenbach *et al.*, and further in light of US Patent 4,889,055 of Jamrozy *et al.* The applicant respectfully traverses all of these rejections.

Independent Claim 1

The Office Action cites the combination of US Patent 4,951,575 of Dominguez in view of US Patent 4,331,083 as a basis for rejection of claim 1 under 35 USC 103. In that light each of the patents is considered below, and then the combination is considered.

(i) US Patent 4,951,575 of Dominguez



The Dominguez patent shows and describes a depressed center beam flat car. The flat car includes an intermediate depressed floor section 42 bounded by intermediate side sill sections 30. Floor section 42 is shown in Figure 1 in a depressed planer orientation relative to below floor sheets 40 of the end portions of the car. Floor section 42 is stepped downward by approximately fourteen to eighteen inches (col. 4, lines 31 - 35). The stated object of the invention in the Dominguez patent is to provide center beam or center partition cars that not only provide greater efficiency, but also demonstrate stability during loading and unloading and while being transported.

The Examiner states:

"It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Dominguez to include the use of a center sill member with a portion of its upper flange corresponding to the height of the end decking portions with a medial portion of the deck structure being stepped downward by a distance of at least 30 inches in his advantageous center beam railroad car as taught by Landregan et al in order to *reduce deflection* in the center sill member or the floor assembly while allowing the railroad car to *carry more load*." (Emphasis added).

The applicant respectfully traverses the premise of these comments.

As noted below, if one reads Dominguez' commentary, the increased step height presently claimed would actually appear to decrease the potential lading capacity of the Dominguez car, and to increase the height of its center of gravity, both contrary to Dominguez' expressed desires.

To the extent that the rejection is based on this incorrect premise, the applicant submits that no basis has been established for the present rejection under 35 USC 103.

It appears that Dominguez contemplated the parameters that could have an impact on, and in his opinion maximize, the payload efficiency. Dominguez comments:

(1) At col.2, lines 21-27:

"The depressed loading area of the depressed center beam car herein disclosed also significantly *increases the available volumetric capacity* for loading modules and also substantially lowers the center of gravity of empty and fully loaded cars. The car of *the invention is designed within the AAR Plate C clearance diagram*." (Emphasis added)

(2) At col. 2, lines 36-49 :

"The depressed section for carrying loads thus results in an *additional carrying capacity* over known cars of approximately 26,460 pounds for lumber having a density of 31.5 pounds per cubic feet. Thus, the payload carrying efficiency is 196,560/200,00 or 98.3% which *achieves an efficiency of over 15% over current center beam/center partition cars*. It is also estimated that incorporation of the depressed floor section of the invention will *decrease the loaded car center of gravity in the range of ten to fourteen inches*. The reduced center of gravity decreases the probability of the car tipping over during the loading/unloading cycles and *significantly improves* the track worthiness and ride stability of the car." (Emphasis added)

Dominguez Teaches Against Presently Claimed Invention of Claim 1

(1) Dominguez' comments (e.g., col. 2, lines 5 – 50), show that Dominguez sought to maximise the load carried by his depressed deck center beam car, and to drop the center of gravity of the car. Dominguez tells us that it is an object of his invention to increase operating efficiency, which he defines in terms of maximising payload (see, again, col. 1, lines 44 – 48 and col. 2, lines 36 – 50). He does this by increasing the volumetric capacity of the car.

(2) Given this desire of Dominguez, it is reasonable to infer that if Dominguez could have dropped the central portion of his deck any further to increase payload, he would have done so. Presumably, therefore, Dominguez' central deck portion is as low as Dominguez could make it within the AAR Plate C clearance diagram (col. 2, lines 21 – 27). Yet Dominguez tells us that the deck is 14 to 18 inches below the end deck portions (col. 4, lines 31 – 35).

(3) Therefore, to achieve the 30 inch step presently claimed, one would have to raise the end deck portions of Dominguez. Deliberately raising the end portions of the deck to obtain a 30 inch step would appear to raise the center of gravity, to decrease the volumetric capacity of the Dominguez car, and hence to also decrease the payload efficiency so prized by Dominguez.

(5) As such Dominguez teaches against the present invention, and hence against the combination proposed in the office action. That is, a person skilled in the art seeking to achieve the objectives expressed by Dominguez (namely, optimised payload efficiency, increased volumetric capacity, and lowered center of gravity) would not deliberately raise the end deck portions apparently to decrease the volumetric capacity, to reduce the payload efficiency, and to raise the center of gravity of the car.

(6) In that light, the applicant submits that a person skilled in the art would be led by

Dominguez away from the combination proposed in the office action.

(7) It follows that a rejection of claim 1, and any claims dependent therefrom, on the basis of a combination of Dominguez et al, and any other reference whether Landregan or some other, has not been established under 35 USC 103.

(ii) US Patent 4,331,083 of Landregan

The Landregan patent shows a drop center gondola car.

The gondola car is especially suited for handling bulk commodities such as coal, grain, ores of different types, and other similar products which may be dumped into the open top of the car in bulk and dumped from the car by inverting the car by standard well known means.

Landregan is in the Wrong Field

Landregan is not a center beam car with a central web structure. The applicant submits that the Landregan reference has no relevance to the art of center beam car design. The applicant respectfully submits that a person skilled in the art of center beam car construction would not look to Landregan to aid in the design of a decking structure for a center beam car.

Fundamental Difference In Function

The gondola car of Landregan is designed to carry very different loads than those of a center beam car. The loose bulk cargo carried by gondola cars typically cannot be loaded on a center beam car due to lack of restraining walls. Gondola cars are loaded from above and may, as in the case of Landregan, be rotated about a horizontal axis to unload.

In contrast, the primary, and sometimes exclusive, purpose of a center beam car is to carry pre-packaged bundles of forest products such as lumber, plywood sheets, wall-board, particle board and the like. These bundles are loaded in a relatively versatile and flexible manner, most typically by fork-lift trucks that approach the car from the side. It would seem difficult, if not impossible, for a fork-lift truck to place a pallet or bundle of lumber in a gondola car.

The unsuitability of the Landregan design as an inspiration for center beam car design is further emphasised by the sloped end sheets (88) and the sloped sheets at the tapered transition

section (17). In a center beam car, it is advantageous for the bulkhead walls to be vertical so that the bundles can be stacked squarely, one atop the other. To put a step or end bulkhead on a slope, as in Landregan, is merely to sacrifice lading capacity for no apparent purpose.

As such, the applicant submits that given the rather great difference in function, it would be highly improbable for a person skilled in the art to look to the construction of a gondola car as in Landregan for an indication of deck structure suitable for use in a center beam car.

Fundamental Difference Structure

A center beam car, as suggested by its very name, has a central beam structure that acts as the primary structural element of the car for resisting vertical loads. The center beam is located along the longitudinal center line of the car and permits convenient side loading of the car by forklift. The decks of a center beam car are cantilevered outwardly from the main sill using relatively deep cross bearers that are joined at their distal ends by side sills. The depth of section of the deck structure at its laterally outboard edge is typically defined by the height of the side sill.

A gondola car, by contrast, is more or less the opposite.

Gondola cars tend to rely on deep sides for resistance to vertical deflection of the side sills – the sides tend to act as deep beams. For example, Landregan has a top chord 60, upper and lower side sheets 62 and 64, a side sill 64, vertically extending posts 66, and longitudinal stiffeners 68. Landregan notes that the vertical load is shared between the side walls and the center sill. What a gondola car clearly does not have is the classic, type-defining center beam standing upwardly of the deck structure and running the length of a center beam car. In contrast to the cantilevered decks of a center beam car, the bottom plates of the gondola car are supported both at their outer edges (by the side wall structure) and at the car center line (by the center sill).

Secondly, the side walls of the gondola car of Landregan are reinforced with a plurality of lower tie bars and a transversely extending bar. It seems unlikely that the primary cargo of a center beam car could be effectively loaded aboard a gondola car given the presence of the structural reinforcing features which span the interior space. Given that center beam cars and Gondola cars are completely unrelated car types, the applicant submits that a person skilled in the art of center beam construction would not tend to consider the design features of the gondola car of Landregan to be of assistance in designing a center beam car.

(iii) Proposed Combination of Dominguez and Landregan

As noted above, the requirements to establish a prima facie case of obvious under 35 USC 103 include

- (1) a suggestion, motivation, or incentive to make the proposed combination or modification;
- (2) a reasonable prospect of success; and
- (3) a showing of all of the features of the claim in the proposed combination or modification.

(1) No Indication of Suggestion or Motivation to Combine

(a) The Commissioner bears the burden of identifying a suggestion or motivation in the references that would lead a person skilled in the art to make the combination proposed in the Office Action. No reference pointing to such a combination, whether by way of column and line number, by Figure number, or by other means has been provided.

Further, the Office Action does not provide an explanation of the knowledge of persons skilled in the art that might point to the combination proposed by the Examiner. As such the applicant submits that the Examiner has not satisfied the requirements for establishing a *prima facie* rejection under 35 USC 103, as set forth at length above. See *ACS Hospital Systems*, *supra*, *Ex Parte Clapp*, *Ex Parte Skinner*, and *In re Mills*, noted above.

(b) The art shows a strong dis-incentive to make the proposed combination. That is, as noted above in the context of Dominguez, (i) Dominguez actually teaches away from the present invention, and, (ii) as noted below, combining Dominguez and Landregan raises unanswered structural issues once it is understood that Landregan's floor structure depends for its outboard vertical support on Landregan's deep vertical sidewall.

(2) No Reasonable Prospect of Success

The success of the combination proposed by in the Office Action appears to rest on the assumption that Dominguez' dropped deck center portion could be replaced by Landregan's gondola central bottom portion to obtain a 30 inch drop. The applicant submits that this is a mistaken assumption.

As noted above, Landregan's central floor structure is not underlain by deep cross-bearers that act as cantilever arms. Rather, Landregan's central floor portion is supported against vertical deflection on the inboard edge by the center sill, and on the outboard edge by the deep side wall structure. In making the combination proposed by the Examiner, there are two possibilities. Either (a) Landregan's side wall is also incorporated in the combination; or (b) Landregan's sidewall is not incorporated in the combination.

(a) If (a) then function destroyed

In the first instance, if Landregan's sidewall is incorporated in the combination, then the basic function of the center beam car is largely defeated, since it would then appear to be impossible to side-load the car with a fork-lift.

As noted above, a 35 USC 103 rejection based upon a modification of a reference that *destroys the intent, purpose, or function* of the invention disclosed in the reference, or references, cited by the Examiner is not proper and the *prima facie* case of obviousness cannot be made, because there would be no technological motivation for engaging in such a modification or change. To the contrary, there would be a disincentive. See *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

(b) If (b), then no reasonable expectation of success

Therefore, to permit the car to function as a center beam car, Landregan's sidewall must be omitted. However, there is no indication that Landregan contemplated a floor structure lacking outboard support. There is nothing that points to Landregan's deck being suitable for carrying bundles of lumber if Landregan's side walls are removed, and much to suggest otherwise. The Office Action has cited no ground upon which to think that Landregan's floor structure, deprived of the outboard support of its deep sidewall, would serve successfully as a center beam car deck. On the contrary, if deprived of outboard support the applicant submits that there may be little or no prospect of a combination of Dominguez with the Landregan floor structure being successful as a center beam car deck.

On the other hand, if Landregan's sidewall is omitted, then alternative structure is required to support the deck. The Office Action is silent on this point, and the references make no mention of it, further bolstering the applicant's submission that there is no suggestion, motivation, or incentive to make the proposed combination to begin with. However, to meet the requirements for

basic function in a center beam car, the alternative structure must provide an unobstructed lading interface, and, to be successful as proposed in the combination, that interface would have to be at least 30 inches lower than the end deck portions. But in this case, Dominguez' efforts must be considered.

Presumably, Dominguez is also at "substantially the minimum permissible clearance above the tracks" that is consistent with being a center beam car. (That is, given that Dominguez (a) sought to increase lading capacity, and (b) sought to lower the center of gravity of the car, there can be no reasonable basis in assuming that Dominguez would voluntarily have built his car with anything more than the minimum permissible clearance, since to do so would appear both to decrease lading, and to increase the height of the center of gravity).

It is unclear how much structure would have to be added to make up for removal of Lundregan's side walls. But it can be inferred from Dominguez that the best Dominguez could achieve was a drop of 14 to 18 inches. (It can be inferred because if Dominguez could have done better, given his objectives, it would not have been rational to have done otherwise. For the rejection to be sustained on the basis of the proposed combination, by lowering Dominguez' medial deck portion in light of Landregan, would have to yield a medial portion deck height that was at 12 to 16 inches lower than Dominguez was able to achieve (i.e., $30 - 18 = 12$, and $30 - 14 = 16$). But it is unreasonable to suppose that a person skilled in the art, presumably such as Dominguez, concerned with lading capacity and center of gravity, would have been so maladroit as to miss his objective by at least 12 inches). Therefore, even if one makes the combination proposed by the Examiner, there is no greater prospect of success in providing the feature recited in claim 1 than Dominguez did.

As such, the applicant submits that (a) the Examiner has not established that there is a suggestion or motivation that would prompt a person skilled in the art to make the proposed combination; and (b) even if there were, there is no indication by which a person skilled in the art would be led to ignore the comments of Dominguez about the efficiency of the load bearing and volumetric capacity and the importance of his design of the depressed center deck for that purpose. On the contrary, the comments of Dominguez quoted above would, if anything, appear to teach away from the combination proposed by the Examiner. As such the applicant submits that *prima facie* grounds for rejection under 35 USC 103 have not been established.

"Obvious to one of ordinary skill in the art"

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In several instances the Examiner has suggested that modifications are "obvious to one of ordinary skill in the art". The applicant respectfully traverses each and every such instance. As noted in *Re Garratt*, a rejection under 35 USC 103 is not properly made out by an unsupported statement that it is "obvious to one of ordinary skill in the art". The Examiner bears the burden of providing support for such a rejection. In view of the authorities cited above, the Examiner has not provided adequate support either for the statement of what would have been 'obvious to a person skilled in the art', contrary to the holding in *Garrett*, or to provide suggestion for the combination, as in *Levengood*. As such the applicant respectfully submits that requirements for a rejection under 35 U.S.C. 103 have not been met.

For example, the Examiner states:

"It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Dominguez to include the use of various height to width ratio of the center sill member in his advantageous system, as center sill design is a common and everyday occurrence throughout the center beam rail car design art and the specific use of ratio of height to width greater than 2 to 1 would have been an obvious matter of design preference depending upon such factors as the weight of the object to be carried by the center beam railcar, the yield strength of the center sill material; the ordinarily skilled artisan choosing the best stress profile corresponding to a particular loading imposed on the side walls which would most optimize the cost and performance of the device for a particular application at hand, based upon the above noted common design criteria." (Emphasis added).

As noted above, the Commissioner is obliged by law to provide a basis for assertions of the skill of persons skilled in the art. The office action does not point to any reference describing, or considering the significance of the various aspect ratios. Yet the present inventor has found that a high aspect ratio center sill is quite advantageous in facilitating the lowering of the center deck while maintaining sufficient deck width for bundles of lumber.

(3) Combination Lacks Feature

The applicant respectfully submits that the Landregan reference does not in any case actually indicate the height of the step from the inside of the end portions of the hoppers and the middle portion. Landregan merely suggests (col.6, line that it is "substantially at the minimum permissible clearance above the tracks...") There is no indication of what the drop might be once the proposed modification had been made, or what structural measures would be necessary to permit the car resulting from the combination to serve its basic function as a center beam car. However, Dominguez is presumably also at or close to the minimum permissible height, and

Dominguez, as discussed above, explicitly states that the step height is 14 to 18 inches. As such neither reference actually indicates the 30 inch step height presently recited in claim 1. The test for a *prima facie* showing of obviousness under 35 USC 103 requires that all elements of the claim be present in the proposed combination. The applicant submits that this requirement has not been met.

(4) Conclusion Re: Claim 1

The Commissioner bears the burden of establishing grounds for rejection under 35 USC 103. As discussed above, the applicant submits that no such grounds have been established.

- (a) The applicant submits that there has been no showing of a suggestion, motivation, or incentive to make the combination proposed in the office action, particularly in light of the remoteness of the Landregan reference from the relevant car type;
- (b) further, the applicant submits that one of the references, Dominguez, actually teaches away from (i) the proposed combination and (ii) the claimed invention;
- (c) still further, the applicant submits that, in making the proposed combination, then for the structural reasons given above, either (i) the basic function of a center beam car would be destroyed or (ii) there would be little or no prospect at arriving successfully at the present invention;
- (d) that even if the proposed combination is made, the resultant combination would not include all of the features recited in claim 1; and
- (e) the applicant further submits that the Office Action provides no supporting documentation by which to demonstrate that modifying the center beam car of Dominguez to include features of Landregan was either a matter of "routine" or of "ordinary skill".

Claim 1 has been amended to delete the word "bulkheads", with the term "end portions" such that the language of the claim is consistent.

The applicant submits that any one of these foregoing reasons is sufficient to show that grounds for a *prima facie* rejection under 35 USC 103 have not been established and that claim 1 is presently allowable.

Claims 2 and 3

To the extent that claim 1 is allowable, the applicant submits that dependent claims 2 and 3 are also allowable.

Claims 4 and 5

There is nothing in the Dominguez or Landregan references that shows posts of roll formed section. On the contrary, Landregan has no center beam posts at all, and Dominguez' posts in Figure 3 appear to have a tapered central web (dashed lines) and flanges. Such a post does not appear to be capable of being roll formed.

As such, the applicant submits that for this additional reason claims 4 and 5 are allowable over the art cited in the case.

Claim 5 has been amended to change "posts" to "post".

Claim 6

Claim 6 claims a center sill having an aspect ratio of greater than 2.4 : 1 and at least one web separator mounted between the webs of the center sill. The Office Action does not identify any such feature in the references. For this additional reason the applicant submits that claim 6 is allowable over the art cited in the case.

Claim 7

Claim 7 relates to a foothold mounted in the step bulkhead between the medial portion of the deck and the end portion of the deck. No such feature is shown in the references cited in the Office Action. As such the applicant submits that for this additional reason claim 7 is allowable over the art of record in the case.

In the event that the rejection of claim 7 is sustained, the applicant requests under MPEP 707.07 that a column and line reference, or an annotated copy of a Figure from either of the references showing or describing this feature be provided so that the applicant may better understand the basis of the rejection.

Independent Claim 8

The applicant repeats the commentary made in the context of claim 1 with respect to claim 8. The applicant submits that claim 8 is allowable over the art cited by the Examiner (a) because there is no motivation, suggestion or incentive for a person skilled in the art to make the combination of Landregan and Dominguez proposed in the office action (b) that Landregan is in the wrong field, has fundamentally different structure, different function, and different loading from a center beam car; (c) that Dominguez teaches away from the combination; and (d) even if the combination is made as proposed, it still lacks at least one element of the claim.

For all of these reasons, the applicant submits that the requirements for a *prima facie* rejection under 35 USC 103 has not been established, and that claim 8 is allowable.

Claims 9 to 12

These claims have been allowed.

Independent Claim 13

Claim 13 has been cancelled.

Independent Claim 14

None of the references identified in the Office Action have a stepped deck with a foothold in the step. The applicant submits that as this element is missing from all of the references cited by the Examiner, the requirements of a *prima facie* rejection under 35 USC 103 have not been met. As such the applicant submits that claim 14 is presently allowable.

Independent Claim 15

The Office Action does not identify a center sill having a draft pocket cap plate mounted within the center sill. The applicant has reviewed the cited references, and is unable to find this feature. Neither the Dominguez patent nor the Landregan patent appear show, describe, discuss, or suggest a center sill that has a draft pocket cap plate mounted within the center sill, let alone at a level lower than the deck sheet. The applicant submits that as this element is missing from the references cited by the Examiner, the requirements of a *prima facie* rejection under 35 USC 103

have not been met. As such the applicant submits that claim 15 is presently allowable.

In the event that the rejection of claim 15 is sustained, the applicant requests under MPEP 707.07 that a column and line reference, or an annotated copy of a Figure from either of the cited references showing or describing this feature be provided so that the applicant may better understand the basis of the rejection.

Claim 15 has been amended to include a central vertical beam assembly extending upwardly of the deck structure. This feature appears to have been omitted inadvertently from claim 15 at the time of filing.

Dependent Claims 16 - 24

To the extent that claims 16 - 24 depend from claim 15, and claim 15 is presently allowable, the applicant respectfully submits that all of claims 16 - 24 are allowable.

Claim 17 has been amended to use the term "deck" consistently.

Claims 25 and 26

Claims 25 and 26 have been cancelled.

Independent Claim 27

The applicant repeats the foregoing commentary made in respect of claim 15. The applicant submits that claim 27 is presently allowable.

Dependent Claims 28 and 29

To the extent that claims 28 and 29 depend from claim 27, and claim 27 is allowable, the applicant submits that claims 28 and 29 are also allowable.

Independent Claim 30

Independent Claim 30 has been amended to include the features of claim 34, and claim 34 has been cancelled. The applicant notes that in Dominguez and Lundregan the draft pocket appears to be the same size as the outboard end portion of the center sill. The applicant repeats

the commentary made above in the context of claim 15 in respect of claim 30. The applicant submits that claim 30, as amended, and all claims dependent therefrom are presently allowable.

Claims 31 to 33

To the extent that claim 30 is allowable, and claims 31 to 33 depend from claim 30, the applicant respectfully submits that claims 31 to 33 are also allowable.

Claim 34

As noted above, claim 34 has been cancelled.

Independent Claim 41

The applicant traverses the rejections of claims 41-44, and 47-51, based on combination of Dominguez and Landregan and further in view of US Patent 4,901,649 of Fehrenbach.

Preliminary Issue: Combination of Dominguez and Landregan Not Obvious

As a preliminary matter, for all of the reasons stated above in the context of claim 1, the applicant submits that a person skilled in the art would not make the proposed combination of Dominguez and Landregan that underlies the further combination with Fehrenbach. That is, (a) no suggestion, motivation or incentive to make the combination has been demonstrated in the references (b) there has been no showing that such a combination would yield a reasonable prospect of success; and (c) the proposed combination does not have all of the recited elements of the claim. Thus, the proposed combination clearly fails all three requirements of the mandatory test for establishing a prima facie rejection for obviousness under 35 USC 103.

Proposed Combination with Fehrenbach

In respect of the proposed further combination with Fehrenbach the applicant notes that (a) there has been no demonstration of a suggestion, motivation, or incentive to make the further proposed combination; and (b) none of the references appear to show an internal web mounted transversely in the center sill, and welded in place, at least in part, by means of apertures in the center sill. This feature is explained in the background of the invention at page 7, line 33 – page 8, line 5, and also in the detailed description at page 29, line 12 to page 30 line 6.

US Patent 4,901,649 of Fehrenbach

US Patent 4,901,649 describes a reinforced span bolster assembly for use with trucks, the bolster being capable of carrying very heavy loads. The span bolster center sill has a local reinforcement doubler plate on top of, in contact with and joined to, the top cover plate on each side of the center bowl and extending substantially to the respective first and second body bolster. The doubler plate sections have three spaced apart longitudinal rows of slots in which welds are made to join the doubler plate sections to the top cover plate. The doubler plate provides extra local thickness to a flange in compression or tension. Fehrenbach uses apertures to increase the weld interface over which shear flow is transferred between the layers of the built up flange.

Fehrenbach Patent is in the Wrong Field

The span bolster assembly of Fehrenbach is designed to support rail cars carrying very heavy loads. It is not a center beam car. The applicant respectfully submits that an ordinary person skilled in the art of center beam rail road car construction would not look to Fehrenbach to aid in the design of a center sill structure for a center beam car.

Issue is Not Addressed by Fehrenbach

Fehrenbach is not dealing with an access issue, where one part is hidden inside another. Fehrenbach is not addressing a manufacturing challenge where a welder cannot easily reach inside an assembly to weld an internal gusset or web in place in a hollow section of a beam. The applicant submits that Fehrenbach does not address the problem faced by the present inventor. In summary, the applicant respectfully submits that claim 41 is allowable.

Claim 41 has been amended to define the relationship of the internal web member to the hollow section of the center sill more clearly.

Claim 42

To the extent that claim 42 depends from claim 41, and claim 41 is presently allowable, the applicant submits that claim 41 is allowable.

Claim 43



Claim 43 has been amended to depend from claim 1, with additional elements included to give proper antecedent basis to the dependent claim language consequent on the change in dependency from claim 41 to claim 1.

Claims 44, 47 and 48

Claims 44 and 47 have been amended to depend from claim 43. Claim 48 has been amended to depend from claim 47.

Claims 45, 46 and 49 to 51

To the extent that claims 45, 46 and 49 - 51 depend from claim 41, and claim 41 is presently allowable, the applicant submits that claims 45, 46 and 49 - 51 are also allowable.

Independent Claim 52

The applicant repeats the foregoing commentary pertaining to claim 41. The art cited by the Examiner does not disclose a center beam car having a depressed central deck portion, a center sill having an aspect ratio of at least 2:1 and at least one internal web separator.

Claim 52 has been amended to recite the step height.

Dependent Claims 53 to 55

To the extent that claim 52 is allowable, the applicant submits that dependent claims 53 to 55 are also allowable. Further, the applicant notes that the Office Action does not appear to make reference to the features of claims 53 to 55, and, while citing Dominguez and Landregan, does not provide any Figure, column, or line references at which the claimed features of claim 53 to 55 may be found. The applicant submits that the requirements of a rejection under 35 USC 103 have not been met by the Office Action.

Independent Claim 56

Please cancel claim 56.

Independent Claim 57

To the extent applicable, the applicant makes the same commentary with respect to claim 57 as made in respect of claims 41 and 52. Although claim 57 has been rejected in light of Dominguez and Landregan, there is no indication in the Office Action by way of Figure, column, or line number to indicate where, and in which document the features of the claim are found.

The Commissioner has the burden of establishing grounds of rejection with sufficient precision that the applicant may understand the basis for rejection, and make a meaningful reply thereto. In the present instance, the applicant is unable to determine which features, if any, of the prior art references correspond to the features of the claim, particularly in regard to the features relating to the placement of a draft pocket cap within the end portion of the center sill.

As such the applicant submits that the requirements to establish grounds for rejection under 35 USC 103 have not been met. As such the applicant submits that claim 57 is presently allowable.

Claims 58 to 60

To the extent that claim 57 is allowable, the applicant submits that claims 58 to 60 are also allowable.

Claim 61

The applicant traverses the Examiner's rejections in respect of claims 19, 29, and 61, based on the combination of Dominguez and Landregan and further in view of US Patent 4,889,055 of Jamrozy.

US Patent 4,889,055 of Jamrozy

Jamrozy describes a railroad car 20 for transporting horizontal double stacked shipping containers. Railroad car 20 has a body 24 which includes a pair of opposing longitudinal low vertical side walls 26, 28, a bottom or floor 30 and a vertically projecting bulkhead structure 32, 34 at each end of the car body (see col. 3, lines 50 - 55).

Jamrozy is in the Wrong Field

For the reasons stated above in respect of the Landregan reference, the applicant respectfully submits that a person skilled in the art would not look to the design of Jamrozy in designing a center

beam car. The car of Jamrozy is a well car. It does not have a center beam. It does not appear to be suitable for side-loading by fork lifts. It is neither designed, nor presumably intended, for carrying bundles of lumber or like materials. Its fundamental structure is completely different from a center beam car. Its fundamental function is completely different from a center beam car.

In summary, the applicant submits that the Jamrozy reference has no relevance to the present invention, either alone, or in combination with any other art of record in the present case.

No Suggestion, Motivation, or Incentive to Combine

There is no indication of a suggestion, motivation or incentive identified in the references cited in the Office Action to support the combination of Dominguez and Landregan, let alone Dominguez with Landregan and Jamrozy.

Jamrozy's Side Sill does not have a Greater Depth than Medial Side Sill

The applicant traverses the Examiner's contention that: "Jamrozy teaches the use of side sills members with greater depth than medial side sill members." Jamrozy does not have a side sill medial portion having a first depth of section and end sill portions having a second depth of section. Jamrozy has a well with a single level deck. The side sills running along beside Jamrozy's deck appear to be on a single, constant depth over the length of the well.

Beams of Jamrozy's Depth Would Destroy Function

If used, side beams of the depth of Jamrozy's well would destroy the basic function of a center beam car, such as Dominguez, since they would appear to make it quite difficult to side-load the car by forklift. The applicant submits that this rather fundamental problem would tend to lead a person skilled in the art away from reliance on Jamrozy as a reference. Alternatively, if relied upon, this failing would tend to lead a person skilled in the art away from the proposed combination, and away from the present invention.

No Indication of Suggestion or Motivation to Combine References

The Examiner bears the burden of identifying a suggestion or motivation in the references that would lead a person skilled in the art to make the proposed combination. The Examiner has not provided any reference pointing to such a combination, whether by way of column and line number, by Figure number, or by other means. Further, there is no explanation of the knowledge of persons

skilled in the art that might point to the combination. As such the applicant submits that the Examiner has not satisfied the requirements for establishing a *prima facie* rejection under 35 USC 103, as set forth at length above. See *ACS Hospital Systems*, supra, *Ex Parte Clapp*, *Ex Parte Skinner*, and *In re Mills*, noted above.

In summary, the applicant submits that claim 61 is presently allowable.

New Claims 62 and 63

New claims 62 and 63 have been added to echo existing dependencies.

5. General Commentary on the Office Action

(a) MPEP 707.07(f) Answer All Material Traversed

"Where the requirements are traversed, or suspension thereof requested, the examiner should make proper reference thereto in his or her action on the amendment.

Where the applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the applicant's argument and answer the substance of it.

If a rejection of record is to be applied to a new or amended claim, specific identification of that ground of rejection, as by citation of the paragraph in the former Office letter in which the rejection was originally stated should be given." (Emphasis added).

(b) Office Actions Must be Prepared in Conformity with the Law

The applicant still further notes that none of the rejections made under 35 USC 103 has been made in conformity with the law or with the procedure set forth in the MPEP, and by which procedure the Examiner is required to act.

The need for demonstration of a motivation, suggestion, or incentive to combine the references cited is an essential requirement for establishing a rejection under 35 USC 103. This has been established by statute and case law, and is reflected in MPEP 2142.

Omission of a relevant factor [i.e., the essential requirement of showing suggestion, motivation, or incentive] required by precedent is both legal error and arbitrary agency action. — *In re Lee, supra*.

“It is well established law that agencies [i.e., including the Patent Office] have a duty to provide reviewing courts with a sufficient explanation for their decisions so that those decisions may be judged against the relevant statutory standards, and that failure to provide such an explanation is grounds for striking down the action.” — *In re Lee, supra*.

“[A]n agency is not free to refuse to follow circuit precedent”. — *In re Lee, supra*.

“Reasoned findings are critical to the performance of agency functions...” — *In re Lee, supra*.

It is an Examiner's duty to prepare, and an applicant's right to receive, an office action that has been prepared in conformity with the law and in conformity with the procedures set forth in the MPEP.

None of the rejections made to date in this matter on the basis of 35 USC 103 have provided either (a) an objective basis in the cited references establishing any suggestion, motivation or incentive for combining the references, or (b) reasoned findings supported by objective evidence to establish a *prima facie* basis for the rejection. Indeed, the necessity of meeting this essential requirement of the law appears repeatedly to have been ignored.

Neither the Commissioner of Patents nor his delegates appointed to examine applications have the right to exercise discretion either to ignore the law or to refuse to follow the precedent of the Court of Appeals for the Federal Circuit.

The office action fails specifically to identify the manner in which each rejection is thought to be applicable to the each of the claims presently pending in the case. As noted in *In re Lee*, cited above, the need for specificity pervades the caselaw. Conclusory statements by an examiner do not adequately address the issue of motivation to combine.

(d) In light of the foregoing, in the event that the Examiner upholds the rejection of one or more of the claims presently pending in this case the applicant requests that, in conformity with the Examiner's duty under the law:

- (i) that the Examiner identify *with specificity* which references are being cited against each specific claim, and the specific features in the references that are sought to be applied to each claim, by Figure and item number or by column and line number;
- (ii) that the Examiner address *by reasoned argument, and in specific detail*, each of the applicant's arguments;
- (iii) that, where a rejection is made under 35 USC 103, the Examiner identify, *with precision and in specific detail* (e.g., by way of Figure and item number, or by column and line number), the location in the references at which a suggestion, motivation, or incentive is provided to make the proposed combination of references.


6) Conclusion

In view of the foregoing arguments and claim amendments the applicant submits that the claims are in a condition to permit allowance. Therefore the applicant requests early and favourable disposition of this application.

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